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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,396	11/28/2004	Theodore Roy Dimitroff	HAM002	5576

7590 10/12/2006

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EXAMINER	
COY, NICOLE A	

ART UNIT	PAPER NUMBER
3672	

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/517,396	DIMITROFF, THEODORE ROY	
	Examiner	Art Unit	
	Nicole Coy	3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 November 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 21-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is unclear how soil enters the interior section enclosed by outer shell 12.

Specification

3. The disclosure is objected to because of the following informalities: There is a description of Figures 5 and 6; however, there is no figure 5 or 6.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 30-35 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The product formed in claims 30-35 is a hole, and holes are non-statutory subject matter.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 21-24, 26-29, and 36-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Rozendaal et al. (USP 6,585,062).

With respect to claim 21, Rozendaal et al. discloses a method of creating a reamed hole below the surface, the method comprising the steps of: positioning a directional drilling machine (35) on the surface, the directional drilling machine having at least one boring stem (9); connecting a reaming device (1) using a dual reaming mechanism, said mechanism being driven by one of a plurality of boring stems, with at least on stem concentrically located inside of another, and a single stem having mechanical means to differentiate torque(3), the interior section (21) of the dual reaming mechanism having the capability of being rotated at a slower and a faster revolution rate than the exterior section (19) of the apparatus (see column 5 lines 53-67 and column 6 lines 7-20); using the dual reaming mechanism to form a reamed hole that is larger than the drill (see figure 3); wherein the interior and exterior portions of the dual reaming

apparatus are rotated in opposite ones of a clockwise direction and a counterclockwise direction (see column 5 lines 53-67 and column 6 lines 7-20).

With respect to claim 22, Rozendaal et al. discloses that the dual reaming mechanism is used to form a substantially non-round reamed hole larger than the drill (wherein the hole would inherently be non-round as the claimed device is substantially similar to the device of Rozendaal et al.).

With respect to claim 23, Rozendaal et al. discloses that the interior portion is rotated at a different rate than the exterior portion by use of one of a combination of at least two gears (17) and a camshaft, said gears or camshaft each differentiating torque provided by rotation of a connected directional boring machine drill string (see column 5 lines 53-67 and column 6 lines 7-20).

With respect to claim 24, Rozendaal et al. discloses a dual reaming apparatus comprising: a rearward (the bottom of figure 1) and a forward end (the top of figure 1), the forward end being capable of being connected to a directional boring machine, said apparatus having at least two parts comprising an interior portion (21) and an exterior portion (19), wherein said interior portion (21) can be turned independently of said exterior portion (19) (see column 5 lines 53-67 and column 6 lines 7-20), and wherein the interior and exterior portions of the dual reaming apparatus are rotatable in opposite ones of a clockwise direction and a counterclockwise direction and the exterior portion of the reaming apparatus is rotated in the opposite direction with respect to said interior portion (see column 5 lines 53-67 and column 6 lines 7-20).

With respect to claim 26, Rozendaal et al. discloses that there is at least one stabilizing wing (23) located on the exterior portion.

With respect to claim 27, Rozendaal et al. discloses a method of creating a reamed hole below the surface, the method comprising the steps of: positioning a directional drilling machine (35) on the surface, the directional drilling machine having at least one boring stem (9); and connecting a reaming device (1) to the at least one boring stem (9) wherein the reaming device has a dual reaming mechanism with an interior section (21) and an exterior section (19) wherein the interior section is rotatable independently of the exterior section (see column 5 lines 53-67 and column 6 lines 7-20), wherein a substantially non-circular reamed hole is produced, wherein the interior and exterior portions of the dual reaming apparatus are rotatable in opposite ones of a clockwise direction and a counterclockwise direction (see column 5 lines 53-67 and column 6 lines 7-20).

With respect to claim 28, Rozendaal et al. discloses that the dual reaming mechanism is connected to a plurality of boring stems with at least one stem concentrically within another (see column 4 lines 31-50).

With respect to claim 29, Rozendaal et al. discloses that the dual reaming mechanism is connected to a single boring stem and a mechanical means (17) is provided to produce differential torque.

With respect to claim 36, Rozendaal et al. discloses an apparatus for created a reamed hole below the surface, the apparatus comprising: a reaming device (1) arranged to be connected to one or more boring stems (9), the reaming device having

an interior section (21) and an exterior section (19, 11) which are rotatable independently of each other (see column 5 lines 53-67 and column 6 lines 7-20), wherein the interior section and exterior section are both rotatable about the same axis (see figure 1), and wherein the interior and exterior portions of the dual reaming apparatus are rotated in opposite ones of a clockwise direction and counterclockwise direction (see column 5 lines 53-67 and column 6 lines 7-20).

With respect to claim 37, Rozendaal et al. discloses that the exterior section (11) is arranged to substantially non rotate during the creation of a reamed hole (see column 6 lines 24-25).

With respect to claim 38, Rozendaal et al. discloses that the exterior section is provided with at least one outside stabilizing wing (23) to reduce rotation.

With respect to claim 39, Rozendaal et al. discloses that the exterior section has a non-circular cross section (see figure 1).

With respect to claim 40, Rozendaal et al. discloses that the exterior section has a substantially circular cross-section (see figure 1).

With respect to claim 41, Rozendaal et al discloses that the exterior section has a non-circular cross section (see figure 1).

8. Claims 30-35 rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Rozendaal et al.

Rozendaal et al. discloses the methods recited in claims 27- 29, therefore the product of both a circular and non-circular would result. Furthermore, it would be

obvious to one having ordinary skill in the art at the time of the invention to use any known method to form a circular and non-circular reamed hole.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rozendaal et al.

With respect to claim 25, Rozendaal et al. does not disclose how the interior and exterior portions are connected. However, threaded connections are well known means of connecting in the art. Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention to connect the interior and exterior portions with threaded connections.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole Coy whose telephone number is 571-272-5405. The examiner can normally be reached on M-F 7:30-5:00, 1st F off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

nac

Jennifer H. Gay
Primary Examiner